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REMARKS

Applicant respectfully request favorable reconsideration of this application.

Claim 1 is amended. Amendment of claim 1 is supported by Figures 2 and 4.

Claims 22 and 23 have been amended editorially.

Claims 1-23 remain pending in this application.

35 U.S.C. 102 Rejection

Claims 1 and 2 were rejected as being anticipated by Blaufus et al. (US 6,910,847). Applicants respectfully traverse this rejection. Even if the reference's Figure 6 shows a rail on the top and bottom of the longitudinal elements, the rail elements are not spaced from each other horizontally. Accordingly, the reference teaches only one horizontal support point (the top) for the weight of the chuck such that a significant part of the work weight must be supported by the arms of the drive mechanism. The reference fails to recognize the problem of weight of the work piece being supported by the arm mechanism. As shown in Figure 5 of the reference, the chuck is positioned above the arm and the arm is positioned above the support point (the top) of the supposed rail element. Accordingly, the weight of the chuck and the work weight would be transmitted through the arm to the single point (the top) of the supposed rail element. Such configuration leads to a significant part of the weight being supported by the arms of the driving mechanism, which increases the chance of damage to the driving mechanism.

In contrast, the moving mechanism of claims 1 and 2 require horizontally spaced rails with the moving member bridged between the rails. Advantageously, the horizontally spaced rails may support almost the entire weight of the moving member and the work piece, freeing the drive mechanism from most of the weight from the work piece. Thus, the drive mechanism is less susceptible to damage caused by weight transmission. Accordingly, the reference fails to teach or suggest all of the required elements of claims 1 and 2. Favorable reexamination and reconsideration of claims 1 and 2 are requested.

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35 U.S.C. 103 Rejection

Claims 3 and 9 were rejected under 35 USC 103(a) as being unpatentable over Blaufus et al. in view of Ishida et al. (US 5,151,008). Applicants respectfully traverse this rejection. The rejection states that it would have been obvious to substitute arm comprising parallel links as taught by Ishida et al. for the arm in Blaufus et al. Applicants respectfully disagree. Ishida et al. fails to remedy the deficiencies of Blaufus et al. set forth above.

Furthermore, Ishida et al.'s arm is substantially different from that of claims 3 and 9. Ishida et al. teaches an arm with two sets of two parallel links; the first link of the first set connects to the first link of the second set at the ends; the second link of the first set connects to the second link of the second set at the ends (see Ishida et al., column 2, lines 11-17; Fig. 3). To clarify, Ishida et al. teaches an arm with two sets of parallel elements wherein the two sets are serially linked to form an arm. Ishida et al. also teaches that both links of the second set are connected to the moving transport member (see Fig. 3).

In contrast, claims 3 and 9 require an arm with a first link, a middle link, and a second link. The first link comprises a first piece and an assisting piece, both connected to the middle link at a third vertical shaft and a fourth vertical shaft respectively. The second link connects to the middle link around a fifth vertical shaft. Even if the fifth vertical shaft and third vertical shaft were positioned coaxially, claims 3 and 9 require an arm with three serially linking elements, which is different from Ishida et al.'s two serially linking elements, each element being made up of a pair of parallel elements. The claimed configuration is advantageous, at least for example, because it requires only a single second link that is connected to the moving transport member as compared to Ishida et al.'s two, yet the entire mechanism still provides substantial stability to the moving member.

Furthermore, because Ishida et al. failed to contemplate the use of the middle link and the use of a fifth vertical shaft, the center-to-center distance between the fifth vertical shaft and the sixth vertical shaft as required in claims 3 and 9 cannot be measured in Ishida et al.'s arm.

Therefore, Ishida et al. teaches an arm that is substantially different to the claimed device and thus fails to remedy the deficiencies of Blaufus et al. Favorable reconsideration of claims 3 and 9 is requested.

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Allowable Subject Matter

Claims 12-21 were allowed.

Claims 4, 5, 6, 8, 10 and 11 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 4, 5, 6, 8, 10 and 11 should be allowable for at least the same reasons as claim 1 from which they depend. Favorable reexamination and reconsideration of claims 4, 5, 6, 8, 10 and 11 are requested.

Claims 22 and 23 were objected to under 37 C.F.R. 1.75(b) as being duplicates of claims 5 and 6, respectively. In the Office Action mailed February 7, 2006, original claims 5 and 6 were considered allowable if rewritten in independent form including the original base claim 1. Claims 22 and 23 are independent forms of original claims 5 and 6. Claims 22 and 23 should not have included the limitation relating to the guide member. Claims 22 and 23 are amended to correct the duplication. Claims 22 and 23 are now allowable.

In view of the above, favorable reconsideration in the form of a notice of allowance is requested. Any questions regarding this communication can be directed to the attorney of record, Douglas P. Mueller, Reg. No. 30,300, at (612)455-3800.

Respectfully submitted,

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Dated: December 15, 2006

By: _____
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DPM/ajk